Owners Manual

Öhlins motocross front forks 48 MXF 2005

Photo: Anders Wallsten/IB Motorsport

Including:

Setting up your bike

Fine-tuning

Service the fork

Technical info

Spare parts

General handling set-up

ÖHLINS
ADVANCED SUSPENSION TECHNOLOGY

Safety signals

Important information concerning safety is distinguished in this manual by the following notations:

⚠

The Safety alert symbol means: Caution! Your safety is involved.

⚠ WARNING!

*Failure to follow warning instructions could result in **severe or fatal injury** to anyone working with, inspecting or using the suspension, or to bystanders.*

CAUTION!

Caution indicates that special precautions must be taken to avoid damage to the suspension.

NOTE!

This indicates information that is of importance with regard to procedures.

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Introduction

All of Öhlins advanced suspension products are adapted to the brand and model. This means that length, travel springaction and damping characteristics, are tested individually just for the motorcycle that you have decided to fit with Öhlins suspension.

Before installation

Öhlins Racing AB can not be held responsible for any damage whatsoever to front fork or vehicle, or injury to persons, if the instructions for fitting and maintenance are not followed exactly.

Similarly, the warranty will become null and void if the instructions are not adhered to.

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⚠ WARNING!

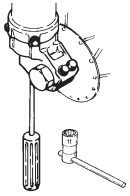
1. Installing a front fork, that is not approved by the vehicle manufacturer, may affect the stability of your vehicle. Öhlins Racing AB cannot be held responsible for any personal injury or damage whatsoever that may occur after fitting the front fork. Contact an Öhlins dealer or other qualified person for advice.

2. Please study and make certain that you fully understand all the mounting instructions and the owners manuals before handling this front fork kit. If you have any questions regarding proper installation procedures, contact an Öhlins dealer or other qualified person.

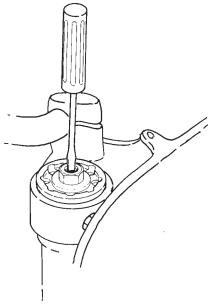
3. The vehicle service manual must be referred to when installing the Öhlins front fork.

NOTE

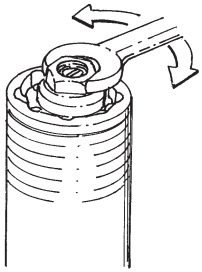
Öhlins products are subject to continual improvement and development. Consequently, although these instructions include the most up-to-date information available at the time of printing, there may be minor differences between your suspension and this manual. Please consult your Öhlins dealer if you have any questions with regard to the contents of the manual.



1.
The high and low speed compression adjuster is located at the bottom of the fork leg. High speed adjustments are made by turning the nut. Use a 12 mm socket. Low speed adjustments are made by turning the screw. Use a slot screw driver.



2.
The rebound adjuster is located at the top of the fork leg.



3.
Spring preload is adjusted with a nut and optional springs are available.

Tuning the suspension

Motorcycle road holding qualities

All motorcycles are designed with a suspension geometry that includes height and fork angle. The changing of components can affect this and it is therefore essential that both the rear and the front ends match each other.

Changing to Öhlins suspension gives optimum performance only when both the front fork and the rear suspension interact properly. It is of the greatest importance that the front and rear loaded heights are within the specified values.
In the Mounting Instructions, see section: *Setting the spring pre-load*.

Design

Öhlins new upside-down (USD) front fork is designed to combine the advantages of comfortable, safe conventional forks and rigid, light USD forks. The result is a unique combination of being rigid, precise in corners and during hard braking yet comfortable, forgiving during “over-landing“ and in big bumps.

Your new Öhlins USD front fork has aluminium outer legs and 48 mm steel inner legs, with a polished surface for lowest possible friction.

The new USD fork features the Öhlins cartridge damping system.

The fork is fully adjustable with external adjuster for compression and rebound damping.

The high and low speed compression adjuster is located at the bottom of the fork leg (Fig.1), the rebound adjuster at the top (Fig.2).

NOTE!

Turning clockwise will increase the damping forces – turning counterclockwise will reduce the damping forces. Similar procedures for spring pre-load.

Spring pre-load is adjusted with a nut (key width 17 mm) (Fig.3) and optional springs are available to suit different tracks and riders.

In the legs there are also “air-springs“ (the air trapped above the oil) that work together with the “real“ spring. You adjust the air-spring by raising or lowering the oil level in the legs.

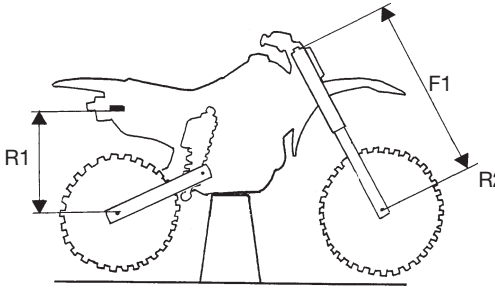
By using different combinations of springs and air-springs you can alter the characteristic of the fork. For example, a soft spring in combination with a small air-spring (high oil level) makes the fork progressive; see *Fine-tuning the bike*.

Marking

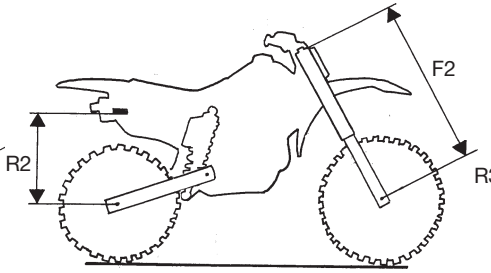
All Öhlins front forks are marked. You will find the part number on the inside of the fork bottom.

Recommended settings

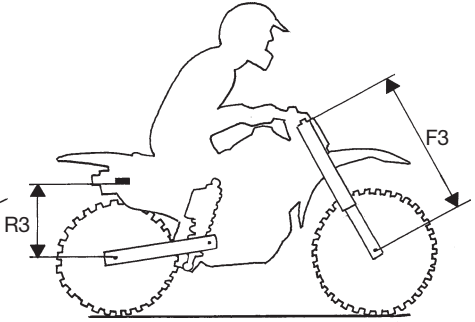
The front fork in your kit is adjusted to the Öhlins recommended setting for your bike. We advise you to use this as your start setting.



Bike on a stand.



Bike on the ground.



Bike with rider on.

Settings

Basic settings

Always ensure that the basic setting made by Öhlins is correct. It is adapted to the make and model (in its original state) and for a rider of average weight.

⚠ WARNING

Incorrect spring action can produce a fork angle that is too steep or too flat. This in turn will give a tendency for oversteering or understeering, which could seriously affect the handling characteristics of the motorcycle.

The original setting of the front fork, when delivered from Öhlins, should always be a base when the settings are changed by use of the adjustment devices.

Setting the spring pre-load

Measuring

Preload on the spring/springs is very important, because it affects the height of the motorcycle and the fork angle. Consequently, handling characteristics can be changed, even negatively. Proceed as follows (it will be much easier if done by two persons):

- Place the motorcycle on a stand, so the front fork and the rear end are in fully extended position.
- Measure the distance, e.g. from the lower edge of the rear mudguard or from a point marked by a piece of tape, immediately above the rear wheel axle, to the wheel axle (R1).
- Make a similar measurement on the front axle, e.g. from the bottom of the upper fork crown to the front wheel axle (F1).
- Allow the motorcycle (without rider) to apply load on the springs and repeat the measuring procedure (R2, F2).
- Then take the same measurements with the rider and equipment on the motorcycle (R3, F3). It is important that the rider has a correct riding posture, so that the weight is balanced on the front and rear wheel in the same way as when riding.

Recommendations

The difference should not deviate from the following sizes, if no other recommended settings are given in the Mounting Instructions:

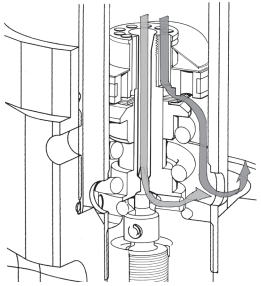
Free sag: (R1-R2), (F1-F2)

Rear:	MX/Enduro	30±5 mm
Front:	MX/Enduro	30±5 mm

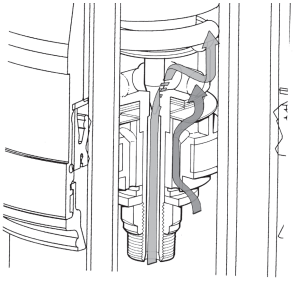
Ride height: (R1-R3), (F1-F3)

Rear:	MX	100±5 mm
	Enduro	30% of the total stroke
Front:	MX/Enduro	80±5 mm

Compression stroke

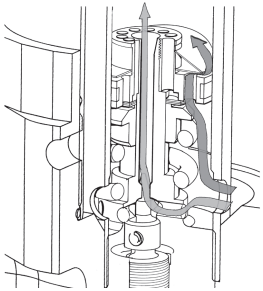


Flow in compression valve

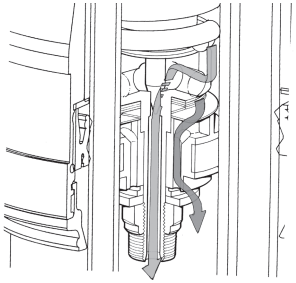


Flow in rebound valve

Rebound stroke



Flow in compression valve



Flow in rebound valve

Fine-tuning the bike

Learning how to use the adjusters will take time but you quickly appreciate them once you know the tricks. Even the specialists sometimes need a specialist!

With the adjusters you optimize the suspension for your riding style and the track you are competing on.

The same basic guidelines go for both the front fork and the rear shock absorber.

Too much compression damping will give you a harsh ride as your bike "jumps" along the track.

With too much rebound damping your bike will have difficulties with several bumps in a row. The suspension will not extend fast enough between bumps, your bike will ride lower and lower and eventually the suspension will bottom!

External adjusters

The front fork is equipped with two different compression valves, one for slow speed movements and one for slow speed movements.

The rebound bleed valve controls the flow during the rebound stroke.

CAUTION!

Using too much force when closing the adjusters will destroy important sealing surfaces.

Both the adjusters have a normal right-hand thread.

Click position zero (0) is when the adjusters are turned clockwise to fully closed.

The adjustment range, from fully closed until maximum open valve (counter clockwise), is 20 clicks.

The high speed compression adjuster can be turned a maximum of 4 turns to fully open.

In order not to click in the wrong direction; always first close the adjuster, then dial-in the new setting.

Making adjustments

To make improvements using the adjusters, it is important to understand the function of the front fork and the shock absorber and through testing learn how they effect the handling of your bike.

Make sure that you have the correct springs and the correct spring preload before making any adjustments. And always start with the Öhlins recommended settings.

NOTE!

See Mounting Instructions for recommended settings.

NOTE!

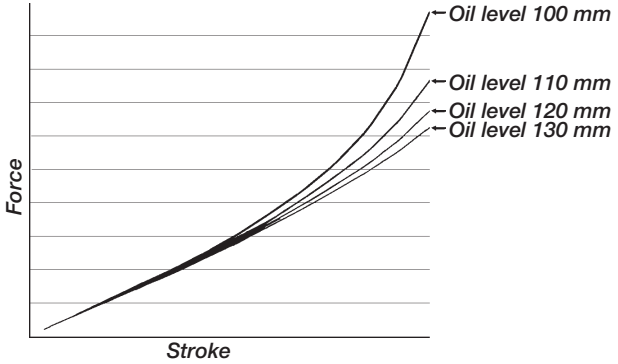
Higher click numbers give less damping force.

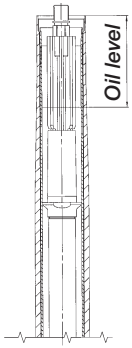
When making adjustments, keep notes, make adjustments one at a time…and in small steps.

The adjusters should normally not be adjusted in steps of more than 2 clicks at a time and not outside the usable click range.

For high speed compression adjustments, adjust one half turn at a time only.

Air spring
4.
A change in oil level will effect the damping forces, not in the early stage of fork travel but a great deal in the later stage.





Oil level
5.
Oil level is measured from the top of the outer leg, with the top nut off, the fork fully compressed and no pre-load washer or spring installed.

When you think you have made an improvement, go back to what you started with and double check to be sure. Pay attention to changes in conditions like tires, temperatures etc.

In general, compression damping changes should be used to influence the bike's stability and response, while rebound damping changes should be used to influence comfort and traction.

When you need more damping force, you should mainly try to increase compression damping and use as little rebound damping as possible.

This usually means that you gain comfort and performance in handling.

Oil level adjustment

As the air trapped between the oil and the top nut acts as an air-spring, a change in oil level will effect the damping forces. Not in the early stage of fork travel, but a great deal in the later stage.

A general description of how the oil level/air-spring effects the damping forces are shown in Fig.4.

The air-spring gives the Öhlins USD fork a progressive spring rate, preventing it from bottoming out hard.

By using different combinations of springs and oil levels/air-springs you can alter the characteristic of the fork and tailor it to suit different tracks and conditions.

CAUTION!

The oil level must be the same in both front fork legs.

When the oil level is raised

The air-spring in the later half of travel is strong, and thus the front fork hard.

When the oil level is lowered

The air-spring in the later half of travel is soft, and thus the front fork soft.

CAUTION!

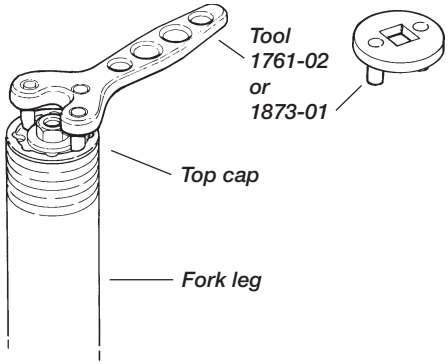
Adjust the oil level with the fork leg fully compressed and no pre-load washer or spring installed.

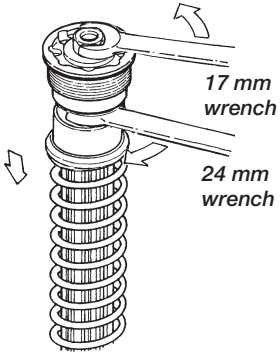
NOTE!

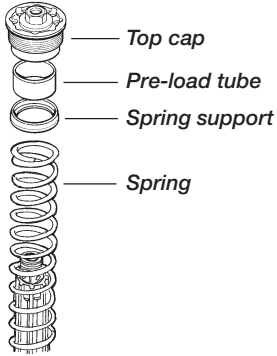
See Mounting Instructions for recommended oil level.

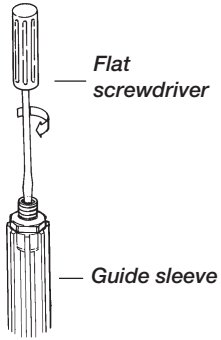
The oil level is measured from the top of the outer leg, with the top nut off (Fig.5).

Changes in oil level should be made in small steps. We recommend a change of 5 mm at a time and not outside the range of 80-130 mm.









Installing springs

1

Put the bike on a stand and loosen the screws in the fork top crown that hold the fork legs.

NOTE!

On most MX-bikes you have to take the handle bar off before you can unscrew the top cap.

Unscrew the top cap, using top cap tool 1761-02 or 1873-01.

2

Remove the top cap from the damper rod extender, use a 17 and 24 mm wrench.

Remove the spring support, the pre-load tube and the spring.

For free spring length, see technical information on page 14.

NOTE!

Check the oil level every time the spring has been removed.

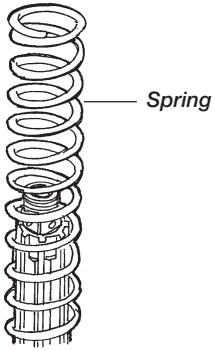
3

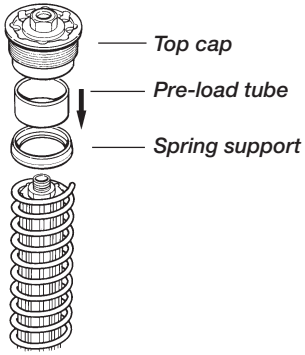
NOTE!

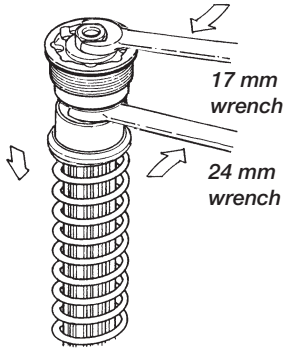
Closing the compression and the rebound valves will keep the damper rod extended, making it easier to install the new spring.

Pull out the damper rod as far as possible.

Close the compression and the rebound valve (clockwise).







4
Install the the correct spring. Two pairs of springs are provided – spring ratio 4.1 N/mm and 4.5 N/mm, respectively.

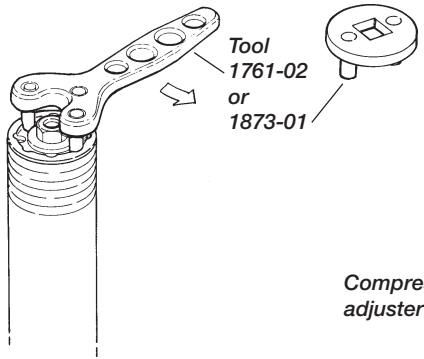
NOTE!

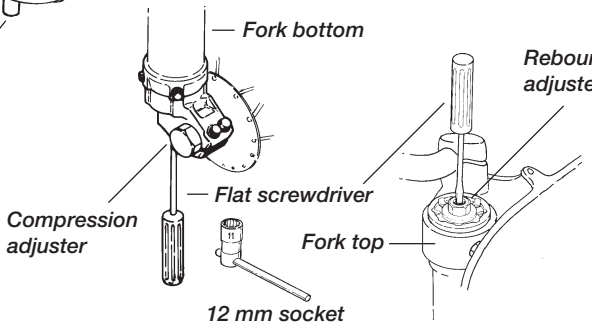
A spring ratio of 4.3 N/mm is obtained if a 4.1 N/mm spring is used in one leg and a 4.5 N/mm spring in the other leg.

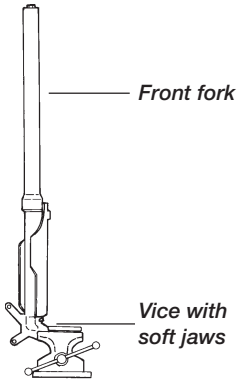
5
Reinstall the spring support, the pre-load tube and the top nut.

6
Install the fork top cap. Tighten (30 Nm) the top cap and the lock nut against each other, use a 17 and 24 mm wrench.

Adjust the compression and the rebound valves according to specification card.







7

Refit the top cap and tighten. Use top cap tool 1761-02 or 1873-01.

The top cap should not be tightened hard, only turned in position by hand.

8

Adjust the compression and the rebound valves according to specification card.

Fit the fork legs on the motorcycle. Tightening torques:

Upper triple clamp:	20 Nm
Lower triple clamp:	10 Nm

Dismantling

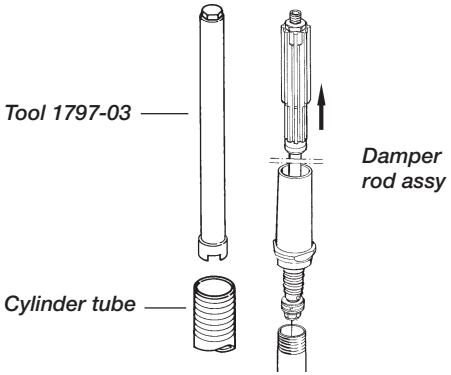
9

Loosen the screws that hold the fork legs in the upper fork crown.

With the fork leg still tightened in the lower fork crown unscrew the top cap. Use a 17 mm wrench.

Loosen the screws that hold the fork legs in the lower fork crown.

Remove the fork legs from the motorcycle and fasten them in a vice with soft jaws.



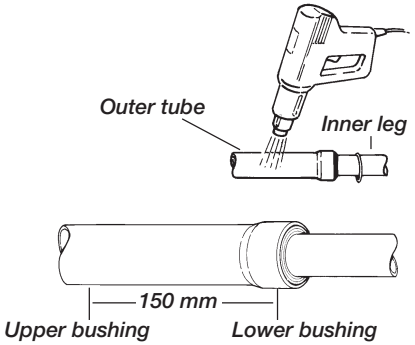
10

Perform steps 1-2 on page 7.

Loosen the cylinder tube cap, on top of the cylinder tube, with tool 1797-03.

Lift up the damper rod assembly and drain the oil.

Pull up the scraper with a screwdriver, release and remove the circlip.



11

CAUTION!

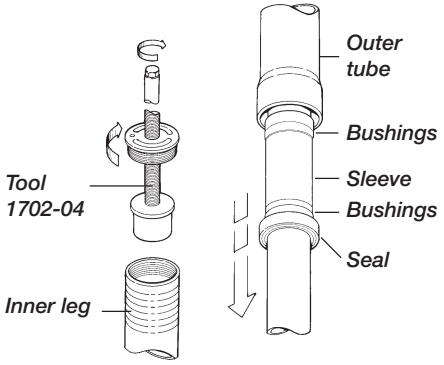
The fork legs have two fixed bushings and one sliding bushing. Be very careful when disassembling the fork legs.

Fasten the fork leg horizontally in a vice with soft jaws.

Use a hot air gun to warm up the outer leg where the bushings are located.

The first bushing is located at the bottom end of the outer leg, the second approximately 150 mm further up the leg.

Between them is a sleeve to maintain the distance.



12

Use the special tool 1702-04 to remove the bushings.

Install the tool in the top of the inner steel leg.

Screw the top cap onto the tool and install the cap in the outer leg.

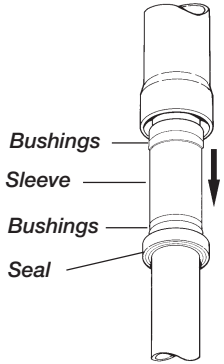
Rotate the tool to press out the bushings.

If tool 1702-04 is not available, push the inner steel leg to the bottom and then pull it back quickly, so that the fork is topping out hard.

Repeat this procedure until the seal and the bushings can be pulled out from the outer leg.

CAUTION!

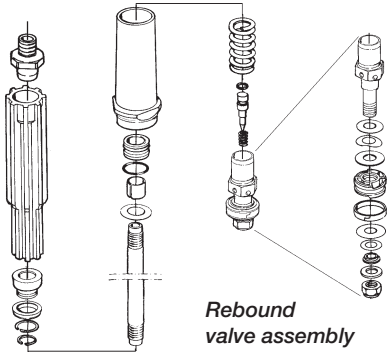
This must be carried out with great care to avoid damages on surface and bushings.



13
Remove the seals and bushings and check them for wear and damage. Replace if necessary.

CAUTION!

When removing the oil seal and bushings use a small plastic bag to cover the bushing attachment groove and edges of the inner tube, to avoid damage to the seals.



14
Fasten the damper rod assembly in a vice with soft jaws.

CAUTION !

Fasten the damper rod assembly in a vice. Be careful not to tighten too hard. The piston rod is very delicate.

Remove all parts from the piston holder.

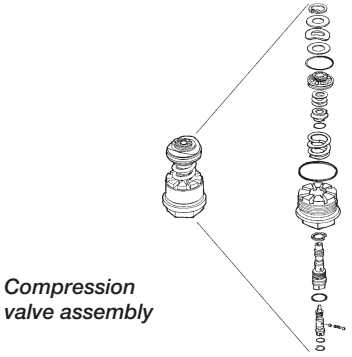
NOTE!

If the correct order is lost, use the specification card as a guide.

Put them in the correct order on the bench. Clean all parts thoroughly.

Inspect all parts for wear and damage, replace if necessary.

Assemble the damper rod.



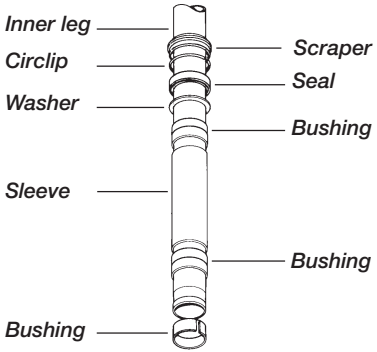
15
Remove the compression valve assembly from the fork bottom using a 23 mm socket.

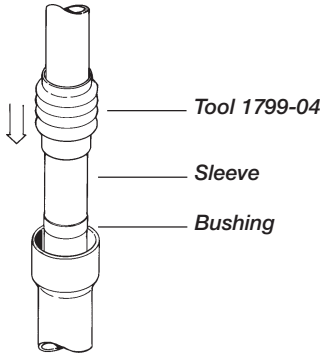
Fasten the valve assembly with soft jaws in a vice.

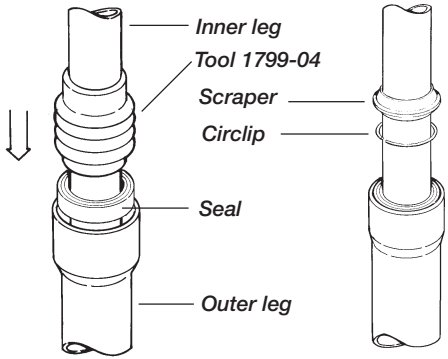
Remove all parts from the valve body and put them in the right order on the bench. Clean all parts thoroughly.

Inspect all parts for wear and damage, replace if necessary.

Assemble the compression valve.







Assembling

16
Apply a thin layer of Öhlins red grease (146-01) on the scraper ring and on the sealing surface of the fork seal.

CAUTION!

When installing the oil seal and bushings use a small plastic bag to cover the bushing attachment groove and edges of the inner tube, to avoid damage to the seals.

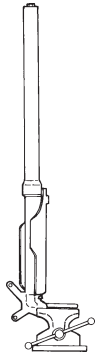
Mount the scraper, circlip, fork seal, support ring and the bushings separated by the sleeve on the inner steel leg.

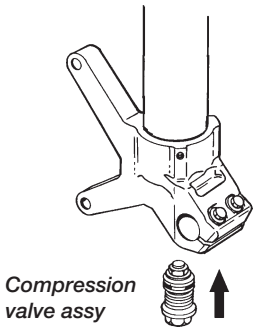
17
Fasten the outer leg in a vice with soft jaws.
Install the inner leg and mount the upper bushing with tool 1799-04, and the sleeve.
Mount the lower bushings.

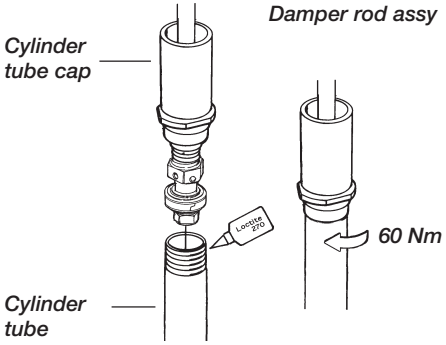
18
Apply some Öhlins red grease on the seals.
Again, use tool 1799-04, flip it around to install the seal in the outer leg.
Install the circlip and the scraper.

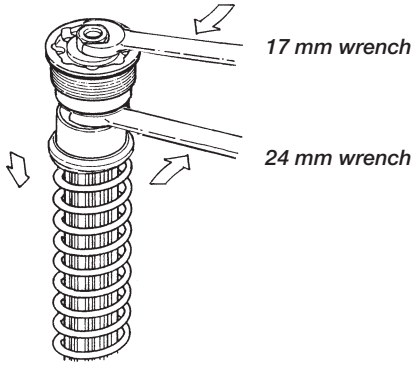
CAUTION!

Make sure the circlip is fitted correctly into the groove in the outer leg.









19
Fasten the fork leg, at the fork bottom, in a vice with soft jaws.

Install the compression valve assembly in the fork bottom.

Tightening torque 60 Nm.

Apply some front fork oil on the outer surface of the inner leg, and push the outer leg up and down a few times.

First, fill up the cartridge tube, then raise up the outer leg about 250 mm and add the remaining oil.

20
Install the damper rod assembly into the cylinder tube.

Use Loctite 270 on the cylinder tube cap.

Tighten with tool 1797-03.

Tightening torque 60 Nm.

Pump the damper rod up and down a few times to check that there is no air left.

Measure the correct amount of oil according to the specification card.

Pull out the damper rod as far as possible and close the compression and the rebound valves.

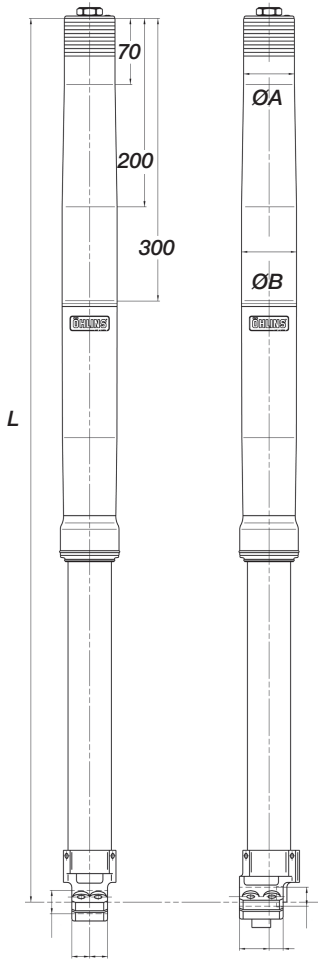
Install the spring and the spring support.

21
Install the fork top cap and the lock nut.

Tighten the top cap and the lock nut against each other, use a 17 and 24 mm wrench. Tighten to 30 Nm.

Fit the fork legs on the motorcycle. Tighten the upper triple clamp to 20 Nm and the lower triple clamp to 10 Nm.

Adjust the compression and the rebound valves according to the specification card.



Technical specifications

Fork lengths and diameters

	Length (L)	ØA	ØB
FG YA:	938 (±0.4) mm	55.9 mm	59.2 mm
FG HO:	940 (±0.4) mm	57.9 mm	59.3 mm
FG KT:	933 (±0.4) mm	54.0 mm	60.0 mm
FG KA:	940 (±0.4) mm	55.9 mm	59.2 mm
FG SU:	Same front fork as FG KA		

ØA, upper: Ø mm (±0.02 mm)
ØB, lower: Ø mm (±0.02 mm)

Rebound and compression adjustment
Refer to mounting instruction for set-up data.
Maximum open rebound: 35 clicks
Low speed compression: 22 clicks
High speed compression: 2 turns

Free Spring Length:
All forks: 467 mm (service limit 460 mm).

Spring pre-load:
Maximum allowed adjustment range 3-13 mm.

Optional spring rate:
2428-37: 3.7 N/mm
2428-39: 3.9 N/mm
2428-41: 4.1 N/mm
2428-43: 4.3 N/mm
2428-45: 4.5 N/mm
2428-47: 4.7 N/mm
2428-49: 4.9 N/mm

NOTE!

On some models we recommend the change of the pre-fitted standard spring to the spring HSC (04107-xx) provided. See page 19 and the Öhlins Mounting Instructions.

Oil level:
Oil capacity in each front fork leg is approximately 540 cc.
See mounting instruction for recommended oil level.
Adjustment range: 80-130 mm.

CAUTION!

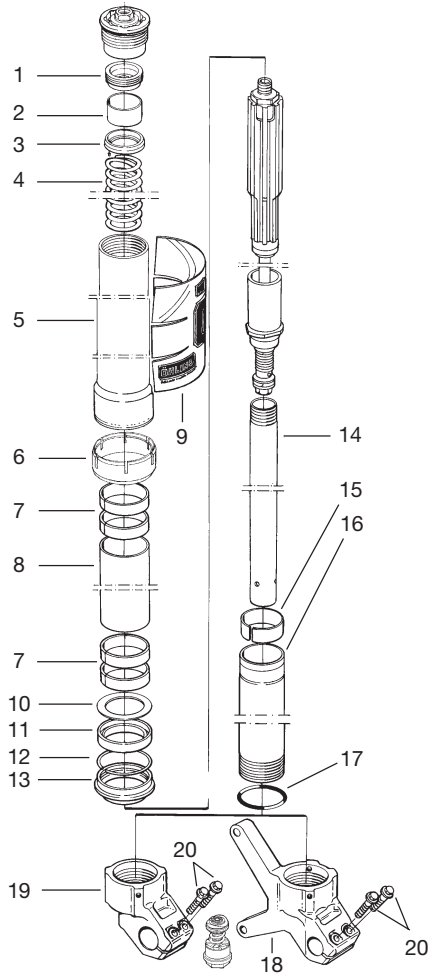
Use only Öhlins high performance front fork fluid No. 5 (1311-01).

Loctite glue:
270 for fork bottom thread and cylinder tube cap.

Tighten torque:
Triple clamp bolt: Top = 20 Nm, Bottom = 10 Nm
Compression valve: 60 Nm (Base valve).
Cylinder tube cap (cartridge tube): 60 Nm
Compression valve, 8 mm nut 8 Nm.
Rebound valve, 8 mm nut 8 Nm.

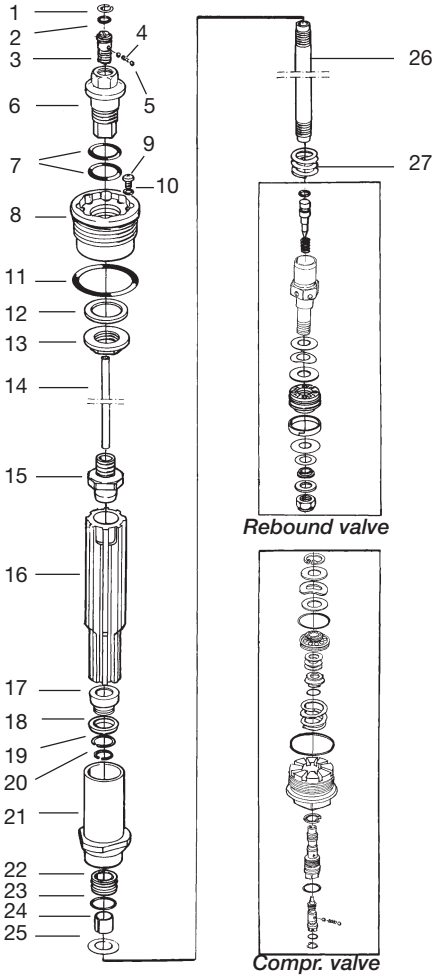
Grease:
Öhlins Front Fork grease 146-01
(Red grease).

Service intervals:
Every 20 hours.



Spare parts

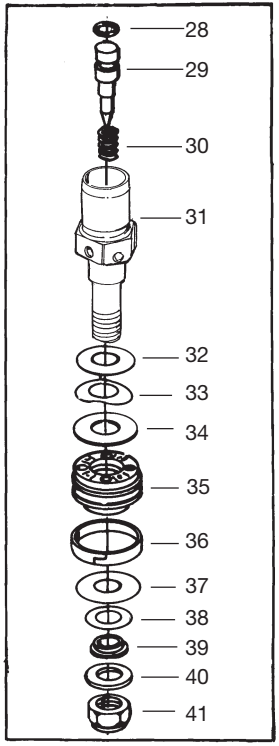
Pos.	*Part No.*	*Pcs.*	*Description*	*Type/remarks*
1	02385-01	1	Spring adjuster	
2	02386-01	1	Preload tube	
3	02387-01	1	Spring support	
4	02428-xx	1	Spring	see spec. card
5	02425-0x	1	Forkleg outer	see spec. card
6	02409-01	1	Guide sleeve	
7	02427-02	4	Bushing	
8	02431-03	1	Sleeve	
9	02332-09	1	Sticker	
10	02412-01	1	Washer	
11	02410-03	1	Seal	
12	02015-01	1	Circlip	
13	02411-03	1	Scraper	
14	02339-01	1	Cylinder tube	
15	02429-02	1	Bushing	
16	02426-11	1	Fork leg inner	
	02426-12	1	Fork leg inner	tin-coated optional part
17	00438-16	1	O-ring	
18	-	1	Bottom piece LH	see spec. card
19	-	1	Bottom piece LH	see spec. card
20	02314-02	2	Bolt	



Spare parts

Pos.	*Part No.*	*Pcs.*	*Description*	*Type/remarks*
1	01473-02	1	Circlip	
2	00338-53	1	O-ring	
3	02321-02	1	Adjustment screw	
4	01248-01	1	Spring	
5	00884-04	2	Ball	
6	02383-01	1	Needle housing	
7	00438-54	2	O-ring	
8	02432-01	1	Top cap	
9	01050-01	1	Screw	
10	00338-59	1	O-ring	
11	00438-61	1	O-ring	
12	02381-01	1	Washer	
13	02380-01	1	Mutter	
14	02366-12	1	Adjustment rod	
15	02384-01	1	Extender	
16	02434-04	1	Guide sleeve	
17	02303-01	1	Sleeve, hydraulic stop	
18	02304-01	1	Hydraulic stop	
19	00131-05	1	Circlip	
20	01499-02	1	Circlip	
21	02433-01	1	Cylinder tube cap	
22	02059-01	1	Bushing holder	
23	00338-19	1	O-ring	
24	00110-01	1	Bushing	
25	02340-01	1	Washer	
26	02388-01	1	Shaft	
27	02063-02	1	Spring	

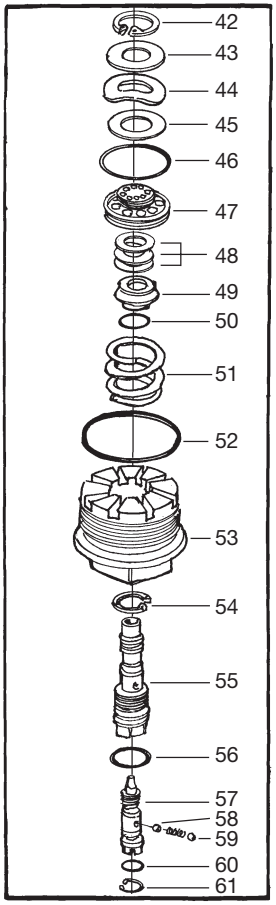
Rebound valve



Spare parts

Pos.	Part No.	Pcs.	Description	Type/remarks
28	00438-31	1	O-ring	
29	02356-03	1	Rebound needle	
30	02322-01	1	Spring	
31	02320-04	1	Piston holder	
32			Shims	see spec. card
33	01149-01		Wave washer	see spec. card
34			Shims	see spec. card
35	02335-12	1	Piston rebound	
36	01447-02	1	Piston ring	
37			Twin shims	see spec. card
38			Twin shims	see spec. card
39			Clamp washer	see spec. card
40	00153-01	1	Washer	
41	00430-05	1	Nut	
42	00509-12	1	Circlip	
43	00530-18	1	Shim	
44	04105-02	1	Wave washer	
45	00520-23	1	Shim	
46	00338-11	1	O-ring	
47	02415-01	1	Valve seat	
48	00185-14	3	Shims	
49	02414-01	1	Poppet valve	
50	00438-52	1	O-ring	
51	04107-02	1	Spring	
52	00438-02	1	O-ring	
53	02440-01	1	Base valve housing	
54	00131-06	1	Circlip	
55	02491-03	1	Base valve adjuster	
56	00338-10	1	O-ring	
57	02444-03	1	Adjustment needle	
58	00884-04	2	Ball	
59	01248-01	1	Spring	
60	0577-01	1	O-ring	
61	01473-01	1	Circlip	

Compr. valve



General handling set-up

Front end falls into the curves (oversteering) especially in sand.

Steep front fork angle. Front end too low in comparison to rear end.

- Increase the front fork compression damping.
- Change to harder springs.
- Lower fork leg approximately 5 mm in the triple clamp.

Front end "ploughs", understeers.

Shallow front fork angle. Front end too high in comparison to rear end.

- Decrease the front fork compression damping.
- Raise the fork legs approximately 5 mm in the triple clamp.
- Change to softer fork springs.

Front end unstable at high speed, unstable when accelerating out of curves.

Front fork angle too steep. Front end too low in comparison to rear end.

- Lower the fork legs approximately 5 mm in triple clamp.
- Change the front fork springs to harder ones.

Front end unstable during deceleration.

Front fork angle too steep during braking. Front end too low or rear end too high.

- Increase the oil level in the front fork.
- Change to harder fork springs.
- Increase the front fork compression damping.

Front suspension.

Front fork travel is not used to its full capacity. Harsh feeling, front wheel grip is not satisfactory in bumpy turns.

Suspension too hard.

- Decrease the front fork compression damping.
- Change to softer springs.

Suspension bottoming, too soft during entire travel.

Spring too weak or compression damping too soft.

- Increase oil level 5 mm.
- Increase compression damping.
- Change to stiffer springs.

Suspension bottoming, but can handle smaller bumps.

Damping force not progressive enough.

- Increase the oil level.

Can handle smaller bumps but is too hard during the last part of the travel.

Damping force is too progressive.

- Decrease the oil level.

Front end feels low, initially feels soft, but is not bottoming.

The initial spring rate is too soft or spring preload is too low.

- Increase the spring pre-load.

Feels harsh over small bumps, but using full wheel travel.

Too much spring pre-load or too much compression damping.

- Increase the oil level or change to softer springs.
- Decrease the compression damping.
- Decrease the spring pre-load.
- Clean the oil seals and scrapers. Use Öhlins grease 146-01 for regreasing.

Can handle the first in a series of bumps but feels hard after a few more bumps. Frontal grip insufficient in rough and bumpy turns.

Too much rebound damping.

- Decrease the rebound damping.

Front end rebound too fast after a bump. Front wheel grip insufficient in bumpy curves.

Not enough rebound damping, or too much spring preload

- Increase the rebound damping.
- Decrease the spring pre-load.

Maintenance

Telescopic front forks depend on smooth, friction free action. Make sure your forks are regularly serviced.

Do not use strong solvents, such as brake cleaner, to clean the front forks. This will dry out the seals and the steel tubes and cause friction or leakage.

After every race

Clean externally and spray with an all-purpose oil after washing with detergent.

Check externally for damage.

Put a little Öhlins red grease (146-01) on the steel tubes and work it in by pushing the fork up and down.

Every 20 hours

Dismantle the fork and check all parts for wear and damage, replace if necessary, see *Dismantling*.

Cleaning the scrapers

The purpose of the scrapers is to protect the fork tube from dust and dirt. However, dirt may after some time end up behind the scrapers. If this dirt is not removed there is risk that the oil sealing rings will start to leak.

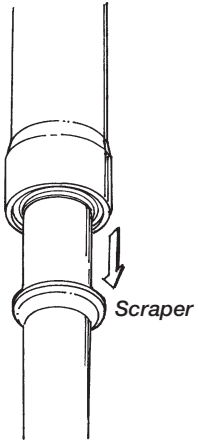
Lift the scrapers out of the outer tubes with the help of a screwdriver and slide them downward. Clean the scrapers, the outer tubes and the front tubes thoroughly, then oil them with Öhlins front fork fluid No. 5 (1311-01). When done, simply remount the scrapers by pushing them into the outer tubes.

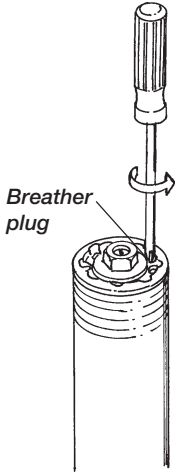
NOTE!

Discarded Öhlins products should be handled over to an authorized work shop or distributor for proper disposal.

Maintenance intervals

Item	After break-in	Every race	Every 20 hours	As required
Front forks				
Inspect and adjust	x	x	-	x
Replace oil	x	-	x	
Replace oil seal	-	-	-	x
Front fork oil seal and dust seal				
Clean and lube	x	x	-	-





NOTE!

Use only Öhlins high performance front fork fluid No. 5 (1311-01).

Breather plug front fork

Make sure to ventilate the telescopic fork at regular intervals. Put the motorcycle on a stand so the front wheel is clear of the ground, then loosen the vent screws to rid the inside of the fork of excess pressure.

CAUTION!

Too high pressure inside of the fork may cause leakage. If this is the case, open the breather plugs before replacing the seals.

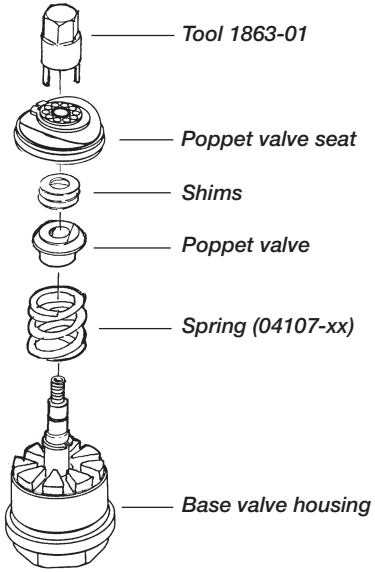
Change of high speed compression spring

NOTE!

This change of spring HSC is recommended for heavier models, such as the 450's and some 250 4-stroke motorcycles. See the Öhlins Mounting Instructions for your specific model.

1

Turn the fork leg upside down and fasten the fork bottom in a vise with soft jaws.



2

Remove the compression (base) valve. Use a 23 mm socket.

3

Fasten the valve in a vise with soft jaws.

4

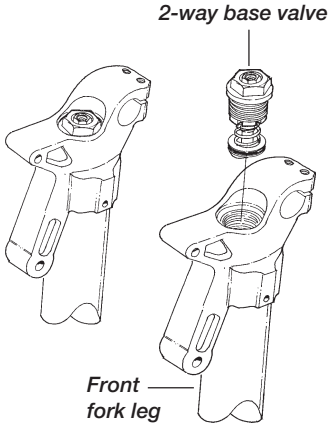
Use tool (1863-01) or a pair of pointed pliers to loosen the poppet valve seat and remove it together with the poppet valve and the spring.

5

Install the new spring, refit the poppet valve and the poppet valve seat. Tighten to a torque of 5 Nm.

6

Refit the valve unit to the fork bottom as described above. Tighten to a torque of 60 Nm.



More info

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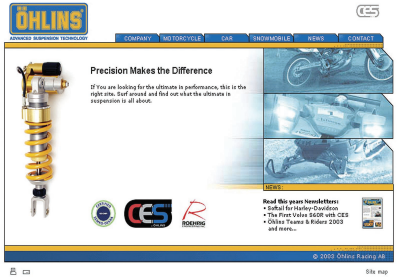

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